

We claim:-

1. A polyamide whose main chain comprises chemically bound 1-amino-2-R-cyclopent-1-ene is, where R is a functional group capable of combining with an amino group to form an amide group.  
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2. The polyamide according to claim 1 wherein R is selected from the group consisting of carboxylic acid, carboxylic ester, carboxylic amide and nitrile.
- 10 3. The polyamide according to claim 1 wherein R represents nitrile.
4. The polyamide according to claim 1 wherein R represents carboxylic acid.
5. The polyamide according to claim 1 wherein R represents carboxylic ester.  
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6. The polyamide according to claim 5 wherein R represents a carboxylic ester selected from the group consisting of methyl ester, ethyl ester, n-propyl ester, i-propyl ester, n-butyl ester, s-butyl ester, i-butyl ester and t-butyl ester.
- 20 7. The polyamide according to claim 1 wherein the main chain of said polyamide comprises chemically bound 2-methyl-1,5-diaminopentane.
8. The polyamide according to any of claims 1 to 7, wherein the main chain of said polyamide comprises chemically bound 1-amino-2-R-cyclopent-1-ene is, where R  
25 is a functional group capable of combining with an amino group to form an amide group, at a level in the range from 0.001 mol% to 2 mol%, based on 1 mol of acid amide groups of said polyamide.
9. A process for preparing a polyamide, which comprises converting monomers  
30 suitable for forming a polyamide into a polyamide in the presence of 1-amino-2-R-cyclopent-1-ene, where R is a functional group capable of combining with an amino group to form an amide group, according to any of claims 1 to 8.
10. A process for preparing a polyamide, which comprises converting oligomers  
35 suitable for forming a polyamide into a polyamide in the presence of 1-amino-2-R-cyclopent-1-ene, where R is a functional group capable of combining with an amino group to form an amide group, according to any of claims 1 to 8.
11. Fibers, films and moldings comprising a polyamide as per any of claims 1 to 8.